

WHAT IS CLAIMED IS:

1. A multi-dimensional programming device comprising:

an object file unit storing object information for creating a multi-dimensional, horizontally written flowchart such as a two-dimensional flowchart, a three-dimensional flowchart and a four-dimensional flowchart;

an object editing unit for using the object information read from said object file unit to edit the multi-dimensional flowchart;

a drafting unit for drafting the edited multi-dimensional flowchart;

and a saving unit for saving the edited multi-dimensional flowchart into said object file unit.

2. A multi-dimensional programming method comprising the steps of:

reading object information from an object file unit storing object information for creating a multi-dimensional, horizontally written flowchart such as a two-dimensional flowchart, a three-dimensional flowchart and a four-dimensional flowchart;

using the object information to edit the multi-dimensional flowchart;

drafting the multi-dimensional, horizontally written flowchart such as the two-dimensional flowchart, the three-dimensional flowchart and the four-dimensional flowchart based on the edited multi-dimensional flowchart; and

saving the edited multi-dimensional flowchart into said object file unit.

3. A multi-dimensional programming device according to claim 1,

wherein said object file unit saves program flowchart symbol information such as a start terminator and an end terminator, coordinate information for specifying a location by rows and columns, cell information described as an area of an intersection of the rows and the columns and character information.

4. A multi-dimensional programming device according to claim 3, wherein said coordinate information comprises a combination of a time axis, a data axis and a control axis, a combination of the time axis, the data axis, the control axis and a CPU axis, a combination of the time axis, the data axis, the control axis, the CPU axis and an event axis; a combination of the time axis, the data axis, the control axis, the CPU axis, the event axis and a condition axis; and a combination of the time axis, the data axis, the control axis, the CPU axis, the event axis, the condition axis and a PC axis.

5. A multi-dimensional programming device according to claim 4, wherein a screen is drafted with the time axis, the data axis, the control axis, the CPU axis, the event axis, the condition axis and the PC axis as its coordinate information, and a screen is constructed such that a horizontal axis becomes the time axis and a vertical axis is used for the data axis, the control axis, the CPU axis, the event axis, the condition axis and the PC axis.

6. A multi-dimensional programming device according to claim 1, wherein said object editing unit makes the programming space displayable on the screen by means of three-dimensional basic coordinates which take

the horizontal axis as the time axis and use the vertical axis for at least the data axis and the control axis, and performs the editing of said screen and the like according to an input command signal.

7. A multi-dimensional programming device according to claim 6, wherein said object editing unit makes it possible to switch a dimension in order to take a cross section for the programming space and see an inside portion of a program.

8. A multi-dimensional programming device according to claim 4, wherein said object editing unit makes flat surfaces of draftable programming spaces into a group and assign tabs to the flat surfaces, in a case of a screen construction in which the vertical axis represents the data axis, the control axis, the CPU axis, the event axis, the condition axis and the PC axis.

9. A multi-dimensional programming device according to claim 3, wherein said object editing unit is provided with a function for shrinking or restoring the coordinate information by units of rows and columns.

10. A multi-dimensional programming device according to claim 3, wherein said object editing unit is provided with a function for burying a given coordinates axis into another coordinates axis, such as by decreasing the number of dimensions, centered around the time axis which is common throughout the programming space.

11. A multi-dimensional programming device according to claim 1, wherein said saving unit contains horizontal slit information having one line's worth of cell objects, and flat surface object information having an object on a flat surface corresponding to the horizontal slit.